

Claims

- 1 1. A system for manufacturing a hard disk drive arm comprising:
2 a U-shaped connector to couple a relay flexible cable to a voice coil carriage assembly,
3 said U-shaped connector including a plurality of generally parallel plates, wherein
4 said parallel plates include at least one bonding pad to electrically couple said relay
5 flexible cable to a head gimbal assembly (HGA) flexure cable.
- 1 2. The system of claim 1, wherein said parallel plates include a plurality of opposing tabs.
- 1 3. The system of claim 2, wherein said voice coil carriage assembly has a plurality of
2 grooves, said grooves being located on opposite sides of the voice coil carriage assembly.
- 1 4. The system of claim 3, wherein said grooves are shaped and located to accept said tabs.
- 1 5. The system of claim 1, wherein said U-shaped connector includes at least one alignment
2 hole and said voice coil carriage assembly includes at least one alignment pin, said alignment
3 hole shaped and located to accept said alignment pin.
- 1 6. The system of claim 1, wherein said bonding pad is to be coupled to at least one
2 connecting pad on said HGA flexure cable by a conductive bonding agent.
- 1 7. The system of claim 6, wherein said bonding agent includes a plurality of electrically
2 conductive particles.

1 8. The system of claim 7, wherein said bonding agent is to be compressed between said
2 bonding pad and said connector pad, a number of said particles to form an electrical path
3 between said bonding pad and said connector pad.

1 9. The system of claim 8, wherein said bonding agent is Anisotropic Conductive Film
2 (ACF).

1 10. The system of claim 1, wherein said voice coil carriage assembly is molded polymer
2 resin.

1 11. The system of claim 1, wherein said voice coil carriage assembly is stamped aluminum.

1 12. The system of claim 1, wherein said U-shaped connector has four bonding pads and said
2 HGA flexure cable has four connecting pads.

1 13. The system of claim 12, wherein said bonding pads and said connecting pads are gold
2 coated.

1 14. A method for manufacturing a hard disk drive arm comprising:
2 coupling, by a U-shaped connector, a relay flexible cable to a voice coil carriage
3 assembly, said U-shaped connector including a plurality of generally parallel plates and said
4 parallel plates including at least one bonding pad to electrically couple said relay flexible cable
5 to a head gimbal assembly (HGA) flexure cable.

1 15. The method of claim 14, wherein said parallel plates include a plurality of opposing tabs.

1 16. The method of claim 15, wherein said voice coil carriage assembly has a plurality of
2 grooves, said grooves being located on opposite sides of the voice coil carriage assembly.

1 17. The method of claim 16, wherein said grooves are shaped and located to accept said tabs.

1 18. The method of claim 14, wherein said U-shaped connector includes at least one
2 alignment hole and said voice coil carriage assembly includes at least one alignment pin, said
3 alignment hole shaped and located to accept said alignment pin.

1 19. The method of claim 14, wherein said bonding pad is to be coupled to at least one
2 connecting pad on said HGA flexure cable by a conductive bonding agent.

1 20. The method of claim 19, wherein said bonding agent includes a plurality of electrically
2 conductive particles.

1 21. The method of claim 20, wherein said bonding agent is to be compressed between said
2 bonding pad and said connector pad, a number of said particles to form an electrical path
3 between said bonding pad and said connector pad.

1 22. The method of claim 21, wherein said bonding agent is Anisotropic Conductive Film
2 (ACF).

1 23. The method of claim 14, wherein said voice coil carriage assembly is molded polymer
2 resin.

1 24. The method of claim 14, wherein said voice coil carriage assembly is stamped aluminum.

1 25. The method of claim 14, wherein said U-shaped connector has four bonding pads and
2 said HGA flexure cable has four connecting pads.

1 26. The method of claim 25, wherein said bonding pads and said connecting pads are gold
2 coated.

1 27. A system for manufacturing a hard disk drive arm comprising:
2 a U-shaped connector to couple a relay flexible cable to a voice coil carriage assembly,
3 said U-shaped connector including a plurality of generally parallel plates, said parallel plates
4 including a plurality of opposing tabs, wherein
5 said voice coil carriage assembly has a plurality of grooves shaped and located to accept
6 said tabs; and
7 said parallel plates include at least one bonding pad to electrically couple said relay
8 flexible cable to a head gimbal assembly (HGA) flexure cable.

1 28. The system of claim 27, wherein said U-shaped connector includes at least one alignment
2 hole and said voice coil carriage assembly includes at least one alignment pin, said alignment
3 hole shaped and located to accept said alignment pin.

1 29. The system of claim 27, wherein said bonding pad is to be coupled to at least one
2 connecting pad on said HGA flexure cable by a conductive bonding agent.

1 30. The system of claim 29, wherein said bonding agent is Anisotropic Conductive Film
2 (ACF).